

### **REMARKS**

Reconsideration of the present application in view of the foregoing remarks is respectfully requested. Claims 43, 45-54 and 56-64 remain in the application.

Applicants wish to thank the Examiner for indicating that a combination of claims 43, 45 and 47, claims 43 and 53, claims 54, 56 and 58 and claims 54 and 61 would be allowable over the art of record. In that regard, Applicant has decided not to combine independent claim 43 and original dependent claims 45 and 47, independent claim 43 and original dependent claim 53, independent claim 54 and dependent claims 56 and 58 and independent claim 54 and dependent claim 61 into new independent claims at this time but reserves such action, as the Examiner indicated that such combinations would be allowable.

In the official action, the Examiner rejected claims 43, 45, 46, 48, 51-54, 56, 57, 59, and 62-64 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,806,240 to Giordano et al in view of U.S. Patent 3,746,171 to Thomsen as follows:

Claims 43, 45, 46, 48, 51-54, 56, 57, 59, and 62-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,806,240 to Giordano et al in view of U.S. Patent 3,746,171 to Thomsen.

With respect to claims 43 and 54, Giordano et al disclose a filter cartridge 100 (see FIG. 3) including a body portion 110 for enclosing filter media for filtering a fluid, and a neck portion 160 including an inlet port 204 for directing unfiltered fluid into the body portion and an outlet port 206 for directing filtered fluid out of the body portion, the neck portion having at least two lugs 172 depending radially outwardly therefrom, each lug having radial and axial engagement surfaces (e.g., at an upper surface and the radial end surface of the lugs 172) which face away from the body portion, wherein each lug has a cam surface axially spaced from the body portion and facing toward the body portion in a generally axial direction for cooperating with camming ramps 93, 95 on the compatible reception assembly 90, at least one of the engagement surfaces defining a keyed surface formation including at least one tooth or protrusion extending axially from remaining portions of the engagement surfaces relative to the neck (see the bosses at on the upper surface at the outer radially ends of the lugs 172 in FIGS. 3, 5, and 6), the teeth being capable of functioning as recited in the claims since they meet all of the structural limitations recited in the claims. Giordano et al fail to specify the cam surfaces of the lugs as being inclined. Thomsen, the specification of which is incorporated by reference by Giordano et al (see lines 62-65 of col. 3), discloses a pair of lugs 75 having rounded ends that inherently form inclined cam surfaces (see FIG. 5 of Thomsen).

Thomsen suggests that the rounded ends/cam surfaces facilitate insertion of the lugs into the grooves of the associated reception assembly. It would have been obvious to have modified the apparatus of Giordano et al so as to have

included lugs having inclined cam surfaces as suggested by Thomsen in order to facilitate insertion of the lugs into grooves of an associated reception assembly.

As to claims 45 and 56, Giordano et al disclose each lug 172 as having an engagement surface defining a keyed surface formation (see FIG. 3).

Regarding claims 46 and 57, Giordano et al disclose the keyed surface formation on each lug of the cartridge is substantially similar (see FIG. 3).

Concerning claims 48 and 59, Giordano et al disclose the neck portion as having a pair of diametrically opposed lugs 172 (see FIG. 3).

As to claims 51 and 62, Giordano et al include a keyed surface formation on an axially facing engagement surface of the lug (see FIG. 3).

Regarding claims 52 and 63, Giordano et al include a keyed surface formation on a radially facing engagement surface of the lug (e.g., the convex surface of the 172 lug).

Concerning claims 53 and 64, Giordano et al disclose a first portion of the keyed surface on an axially facing engagement surface of the lug (e.g., the entire upper axial surface) and a second portion of the keyed surface formation as being on a radially facing engagement surface of the lug (e.g., the entire curved radial end surface of the lug).

Claims 49 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giordano et al in view of Thomsen as applied to claims 43 or 54 above, and further in view of Groezinger et al.

With respect to claims 49 and 60, Giordano et al and Thomsen fail to specify the neck portion as having three circumferentially spaced apart lugs, however, Groezinger et al disclose just such an arrangement (see FIGS. 1 and 2 and the lugs 42). Groezinger et al suggest that such an arrangement increases the strength and stability of the connection between the filter and a reception assembly. It would have been obvious to have modified the combination suggested by Giordano et al and Thomsen so as to have included the three lug arrangement as suggested by Groezinger et al in order to increase the stability and strength of the connection between the filter and reception assembly. [Emphasis added]

As stated in the application at page 3, lines, 2-6:

Examples of prior art filter cartridges having lugged engagement portions are disclosed in the Petrucci et al. and Giordano et al. patents discussed hereinabove, and in U.S. Patent Nos. 4,857,189 and 4,956,086 to Thomsen et al. It would be beneficial to provide a key system for replaceable filter cartridges having lugged mounting systems.

Applicants wish to thank the Examiner for the courtesies extended to Applicants attorney during the telephone interview of May 30, 2006. In that regard, Applicants attorney has now consulted with experts familiar with the Giordano Patent that is

being used by the Examiner as the primary reference in his rejections the claims filed with the previous amendments.

Specifically, Applicants attorney consulted with Mr. Bruce G. Taylor, a retired engineer that had long worked with the products associated with the Giordano Patent who, after reviewing the Giordano Patent and the products that were the basis for the Giordano Patent as well as other relevant material, reached the following conclusions summarized as follows:

It was Mr. Taylor's understanding that the subject patent application no. 10/753,894 to Bassett, et al. was directed to and disclosed a filter cartridge connector and head receptacle having a keyed configuration as part of its design in which a group of two or more such connector/receptacle sets would be similar in design but be differentiated from one another by subtle variations in the configurations of the key features with the result that a given connector would not engage with any of the receptacles other than its intended mating receptacle.

In that regard, it was Mr. Taylor's observations that U.S. Patent No. 4,802,240 to Giordano et al. makes no similar disclosure. During Mr. Taylor's about 38 years of employment at CUNO Incorporated, as part upon his duties, he performed certain engineering work in connection with the product that resulted from the Giordano Patent. In that regard, Mr. Taylor could not recall any correspondence or discussions, in which he had participated or witnessed, wherein the original design or later incorporated into the design by subsequent revision(s) of the product based on the Giordano Patent, in which there had been any intended or operative keying feature(s) incorporated into the product, commonly known as the CFSA adapter assembly. In fact, this particular product was designed to fit and seal with only one extant filter head design, in particular, one belonging to a competitor of CUNO Incorporated and Mr. Taylor was unaware of any other product that this specific CUNO Incorporated adapter was designed to fit or specifically not fit to.

Referring specifically to U.S. Patent No. 4,806,240 to Giordano et al, Fig. 3, Mr. Taylor observed the two axially protruding bosses on each of the two radially protruding lugs (ref. no. 172) that are alleged to represent prior art as a keyed connector design. In Mr. Taylor's opinion, these bosses, as shown in Fig. 3 and as exist in the manufactured part, are of insufficient prominence to function reliably as a keying feature intended to provide a dependable go/no go condition with a mating receptacle.

Specifically, Mr. Taylor directed our attention to CUNO Incorporated production drawing No. 68443 (copy attached) and a photograph (copy attached) of the molded part in question and, as can be seen therein, the two axially protruding bosses are

raised from the adjacent surface of the lug only to the extent necessary to ensure a plane of contact formed by the raised bosses, thus, providing snug engagement with the intended receptacle. The area of the lug adjacent to and surrounding these bosses is relieved from the plane formed by the bosses to a degree sufficient (.040" max to .020" min in the drawing) to accommodate the presence of raised printing (.015" max in the drawing) and ejection pin marks from the injection molding process extant in the manufactured part such that these features would not interfere with the contact plane formed by the bosses, as shown in the attached drawing and photograph and as would be understood by those skilled in the art.

Finally, in Mr. Taylor's professional judgment, the particular bosses being proposed to support effective keying elements by the Examiner would be inoperative if an attempt was made to place these or similar bosses in operation in an environment requiring a keying functionality similar to that disclosed in the present application, due primarily to the insufficient length of the projection such that such projection, due to required tolerances, would be unable to properly function as an effective keying structure. In laymen's terms, "they are just too tiny to work."

*The Examiner in the Present Application Cannot Legitimately Apply Giordano et al.*

As the Examiner will note upon reviewing the teachings of the two primary applied references as it would be understood by a person skilled in the art, a combination of the Giordano et al and the Thomsen references **would be inoperable** because the resulting at least one of the engagement surfaces defining a keyed surface formation comprising: at least one tooth extending axially from remaining portions of the engagement surfaces relative to the neck, the at least one tooth enabling the cartridge to mate with a compatible reception assembly and preventing the cartridge from mating with an incompatible reception assembly and an action acknowledging same is respectfully requested.

As the Examiner must know, the Federal Circuit has held that when the Examiner proposes a combination that makes a prior art reference inoperable for its intended purpose in its intended environment, the resulting inoperable prior art reference may be considered to teach away from the proposed combination, i.e., not to teach the combination, thereby supporting a showing of nonobviousness. [See *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984)] As an example, the Federal Circuit has stated: [Emphasis added]

We have noted elsewhere, as a "useful general rule," that references that teach away cannot serve to create a prime facie case of obviousness. . . . If references taken in combination would produce a "seemingly inoperative

device," we have held that such references teach away from the combination and thus cannot serve as predicates for a prime facie case of obviousness. [*In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Circ. 1984) (finding no suggestion to modify a prior art device where the modification would render the device inoperable for its intended purpose) (inoperable modification teaches away)]

As the Examiner will note upon reviewing Mr. Taylor's comments above, that the Giordano et al. reference would not have worked, as the particular bosses being proposed to support effective keying elements by the Examiner would be inoperative if an attempt was made to place these or similar bosses in operation in an environment requiring a keying functionality similar to that disclosed in the present application, due primarily to the insufficient length of the projection such that such projection, due to required tolerances, would be unable to properly function as an effective keying structure. In laymen's terms, "they are just too tiny to work."

Thus, applicants respectfully submit that the rejection wherein, according to the Examiner, the neck portion having at least two lugs 172 depending radially outwardly therefrom, each lug having radial and axial engagement surfaces (e.g., at an upper surface and the radial end surface of the lugs 172) which face away from the body portion, wherein each lug has a cam surface axially spaced from the body portion and facing toward the body portion in a generally axial direction for cooperating with camming ramps 93, 95 on the compatible reception assembly 90, at least one of the engagement surfaces defining a keyed surface formation including at least one tooth or protrusion extending axially from remaining portions of the engagement surfaces relative to the neck (see the bosses at on the upper surface at the outer radially ends of the lugs 172 in FIGS. 3, 5, and 6), the teeth being capable of functioning as recited in the claims since they meet all of the structural limitations recited in the claims, as such combination would be **inoperative for its intended purpose** and an action acknowledging same is respectfully requested

As should be abundantly clear to the Examiner, the proposed combination of references to reject the claims is inappropriately based upon certain misconceptions not readily apparent to those **NOT** having actual industrial experience related thereto. In view of the above, applicants respectfully submit that the claims presently before the Examiner are allowable and an action acknowledging same is respectfully requested.

As stated in the most recent response, Applicants strongly disagree with the Examiner's interpretation of the Giordano et al. patent. First, the Giordano et al. patent is directed to a **cartridge adapter**, not a **filter cartridge**, as currently claimed in independent

amended claims 43 and 54. In fact, Applicants are unable to locate any discussion concerning an **adapter** anywhere in the specification of the present application, much less in the claims. Thus, it would appear that Giordano et al. teaches away from the key geometry preventing the filter cartridge from mating with any incompatible head geometry. The structure that the Examiner points to in his rejection, a pair of wings 172, Fig 3, is a bayonet engagement lug on an **adapter** 150 having structure that when the **adapter 150 is interposed between the filter cartridge 100 and the head 50**, enables the operable connection of the cartridge inlet 132 and the outlet 124 in the cartridge neck with the cooperating inlet 60 and outlet 70 of the head 50. Further, the geometry used to describe element 172 is not the type geometry used to describe the "key" feature of the present application wherein the filter cartridge is provided with a set of cam lugs configured to facilitate rotatable mounting of the cartridge to a base or supporting structure (head), as confirmed by Mr. Taylor.

In that regard, Applicants believe that the previously amended claims 43 and 54 sufficiently, functionally describe the functionality of the keyed surface that, in addition to allowing the cartridge key geometry to mate with compatible head geometry, the key geometry must also prevent the filter cartridge from mating with any incompatible head geometry. As the Examiner should recognize, both of these features are certainly not disclosed, suggested or taught by Giordano et al., Thompson or Groezinger et al., taken alone or in combination and an action acknowledging same is respectfully requested. Since the purpose of the primary reference, the Giordano et al. patent, is to enable an incompatible filter cartridge to mate with a base or supporting structure (head), it is not understood how the primary reference, the Giordano et al. patent, is even remotely related to the subject matter of the presently amended independent claims because it is believed that no person skilled in the art would even consider the primary reference, the Giordano et al. patent, to be relevant to solving the problem of preventing a filter cartridge from mating with an incompatible head geometry and an action acknowledging same is respectfully requested.

As the Examiner must also know, the suggestion of the references must not require such substantial reconstruction or redesign in the references to arrive at the claimed invention.

For example, *In re Ratti*, 270 F.2d 810 123 USPQ 349 (C.C.P.A. 1959), the invention and oil seal for sealing the space between a bore in a housing and a relatively moveable shaft centrally located in the bore. The seal comprised an annular sealing member of resilient deformable material that was adapted to be inserted into a cylindrical bore surrounding a relatively moveable shaft. The board rejected the claimed invention

specifically claims 1, 4 and 7, as being obvious in view of a combination of a prior art references by Jepson and Chinnery.

On appeal, the Court of Customs and Patent Appeals (CCPA) reversed the rejection, emphasizing that the modification of prior art would be too substantial to have been obvious. As stated by the CCPA:

We hold...that the combination of Jepson and Chinnery et al. is not a proper ground of rejection of the claims here on appeal. This suggested combination of references would require a substantial reconstruction and redesign of the elements shown in Chinnery et al. as well as a change in the basic principles under which this Chinnery et al. construction was designed to operate. (emphasis added)

The CCPA also added the following:

Once [applicant Ratti] had taught how this could be done, the redesign may by hindsight, seem to be obvious to one having ordinary skills in the shaft sealing art. However, when viewed as of the time [applicants] invention was made, and without the benefit of [applicant's] disclosure, we find nothing in the art of record which suggest Appellant's novel oil seal as defined in claims 1, 4 and 7.

As can be seen from the above discussion, the Ratti decision indicates that an obvious rejection is not appropriate if substantial reconstruction or redesign of the prior art references is necessary to arrive at the invention.

The claims of the present application require, among other features, that at least one of the engagement surfaces defining a keyed surface formation comprising: at least one tooth extending axially from remaining portions of the engagement surfaces relative to the neck, the at least one tooth enabling the cartridge to mate with a compatible reception assembly and preventing the cartridge from mating with an incompatible reception assembly.

Thus, applicants believe that to modify the primary reference in accordance with the Examiner's suggestion would require a substantial reconstruction and redesign of the elements shown in Giordano et al. as well as a change in the basic principles under which the Giordano et al. construction was designed to operate.

It is applicant's position that the Giordano et al. reference was applied by the Examiner in the prior official action to produce an inoperable combination and, as such,

cannot legitimately be applied by the Examiner in the present application. Further, it is applicant's position that the Giordano et al. reference that was applied by the Examiner in the prior official action is not enabled as a reference for the purpose proposed by the Examiner and, as such, cannot legitimately be applied by the Examiner in the present application.

We have noted elsewhere, as a "useful general rule," that references that teach away cannot serve to create a *prima facie* case of obviousness.... If references taken in combination would produce a "seemingly inoperative device," we have held that such references teach away from the combination and thus cannot serve as predicates for a *prima facie* case of obviousness. [See *In re Spinnoble*, 160 USPQ 237, 244 (C.C.P.A. 1969)]

Therefore, it should be obvious to the Examiner that the rejections are inadequate to establish a *prima facie* case of obviousness, as the proposed combination does not teach and, in fact, teaches away from the present claims and an action acknowledging same is respectfully requested.

As the Examiner knows, the Examiner carries the burden under Section 103 to establish a *prima facie* case of obviousness, *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988), and must show that the references relied on teach or suggest all of the limitations of the claims. *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970). "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." *Carella v. Starlight Archery*, 804 F.2d 135, 231 U.S.P.Q. 375 (Fed. Cir. 1986). There must be some explicit teaching or suggestion in the art to motivate one of ordinary skill to combine the references in the manner suggested. See, *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 957, 43 U.S.P.Q.2d 1294 (Fed. Cir. 1997); *Fromson v. Anitec Printing Plates, Inc.*, 132 F.3d 1437, 45 U.S.P.Q.2d 1269 (Fed. Cir. 1997).

In this instance, the Examiner has failed to establish a *prima facie* case of obviousness and has admitted that the references relied upon do not teach or suggest all of the limitations of the presently pending independent Claims. Accordingly, The presently pending independent Claims and each of the claims depending respectively therefrom, are not rendered obvious by the combination of Giordano et al. in view of Thomsen. Therefore, withdrawal of the rejection under 35 U.S.C. §103(a) is again respectfully requested.

Thus, it is Applicants' position that the application is now in condition for allowance and an action acknowledging same is respectfully requested. Thus, since it is clear that the Giordano et al. patent is directed to subject matter other than that presently claimed



and such subject matter is **so different** from the subject matter of the present claims, no secondary references can make up the shortcomings of the primary Giordano et al. reference and an action acknowledging same is respectfully requested.

As stated above, the Giordano et al. reference teaches away from allowing the cartridge key geometry to mate with compatible head geometry and also preventing the filter cartridge from mating with any incompatible head geometry and, thus, it is respectfully submitted that no additional reference can cure this defective teaching away and an action acknowledging same is respectfully requested.

Concerning the Examiners further rejection of the above claims for being "... obvious to have modified the apparatus of Giordano et al so as to have included lugs having inclined cam surfaces as suggested by Thomsen in order to facilitate insertion of the lugs into grooves of an associated reception assembly" and "... obvious to have modified the combination suggested by Giordano et al and Thomsen so as to have included the three lug arrangement as suggested by Groezinger et al in order to increase the stability and strength of the connection between the filter and reception assembly." This reasoning appears to be similar to rejection for "being a matter of design choice" and the taking of "official notice." Applicants believe that the amendments have obviated not only the Examiners prior art rejections but also obviated the Examiner's reasoning based on being similar to personal knowledge, when the Examiner states that specific information that is needed to support the obviousness rejection is obvious to one of ordinary skill in the art or is similar to "as a matter of design choice" and the taking of "official notice."

In that regard, concerning the Examiner's unsupported assertion that "...obvious to have modified the apparatus of Giordano et al so as to have included lugs having inclined cam surfaces as suggested by Thomsen in order to facilitate insertion of the lugs into grooves of an associated reception assembly" and "... obvious to have modified the combination suggested by Giordano et al and Thomsen so as to have included the three lug arrangement as suggested by Groezinger et al in order to increase the stability and strength of the connection between the filter and reception assembly, which is similar to the taking of "official notice", applicants respectively request that the Examiner provide an affidavit supporting what the Examiner asserts is "... obvious to have modified the apparatus of Giordano et al so as to have included lugs having inclined cam surfaces as suggested by Thomsen in order to facilitate insertion of the lugs into grooves of an associated reception assembly" and "... obvious to have modified the combination suggested by Giordano et al and Thomsen so as to have included the three lug arrangement as suggested by Groezinger et

al in order to increase the stability and strength of the connection between the filter and reception assembly," as is required upon request of the applicants.

Concerning the Examiners assertion that certain claims are rejected because "it would have been obvious...", applicants respectively submit that the Examiner's characterization of "obvious to have modified the apparatus of Giordano et al so as to have included lugs having inclined cam surfaces as suggested by Thomsen in order to facilitate insertion of the lugs into grooves of an associated reception assembly" and "... obvious to have modified the combination suggested by Giordano et al and Thomsen so as to have included the three lug arrangement as suggested by Groezinger et al in order to increase the stability and strength of the connection between the filter and reception assembly" are clearly unsupported conclusions - not reasons on which to base rejections.

Another form of personal knowledge (other than the taking of official notice, which was addressed above) is when the Examiner states that specific information that is needed to support the obviousness rejection is obvious to one of ordinary skill in the art or is similar to a matter of "design choice" rejection. That is, the Examiner is missing specific information and relies on general knowledge in the prior art that the Examiner assumes would teach the missing subject matter. The Examiner must provide sufficient reasoning to substantiate the claim of obvious design choice.

As the Examiner may know, a bald statement very similar to the Examiner's was addressed by the PTO Board of Patent Appeals and Interferences in In re Garrett, 33 BNA PCTJ 43 (November 13, 1986). The Board, in reversing an Examiner's similar, but legally untenable alleged rejection, held that the Examiner's assertion that the modification proposed was "...an obvious matter of engineering design choice was an unsupported conclusion -- not a reason upon which to base the rejection". [See also In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977), Carl Schenck, A.G. - v. Norton Corp., 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983) and Carman Industries v. Wahl, 774 F.2d 932, 220 USPQ 481 (Fed. Cir. 1983)]. Applicants find no disclosure, suggestion or teaching in the combined applied references which would suggest to one skilled in the relevant art to combine the specific features mentioned above, as claimed in the present application.

In a later example relating to "design choice", in In re Chu, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995), the invention related to an apparatus used to control or filter emissions, such as sulfur oxides, oxides of nitrogen, and particulates (such as fly ash), from fossil fuel boilers. The Examiner was of the opinion that the prior art showed all the features of the invention with the exception of a baghouse filter having a catalyst located within the filter. The applicant Chu argued that the prior art references did not teach or suggest the

positioning of the catalyst inside the bag retainer of the filter bags. Chu maintained that this feature was significant because the bag retainer provided support and prevented the filter bags from collapsing during pulsejet cleaning. Chu provided technical evidence relating to, for example, the frailty of fabric filters during pulse-jet cleaning, and the violent "snapping" action during pulse-jet cleaning.

On appeal, the Board concluded that situating the catalyst within the bag retainer was a matter of "design choice" and affirmed the rejection. The Federal Circuit, however, reversed the rejection. The court emphasized that Chu's technical evidence militated against a conclusion that placement of the catalyst was merely a design choice. **Since the Board provided no specific reasoning to support the assertion of design choice,** the Federal Circuit reversed the rejection. (Emphasis added) Thus, **the Chu decision instructs that the Examiner must provide reasoning why a specific feature is a matter of design choice, and therefore obvious to one of ordinary skill in the art.** (Emphasis added)

In a more recent case, In re Sang-Su Lee, 61 U.S.P.Q.2d 1430, the Federal Circuit spoke definitively concerning the requirement for "judicial review of a decision of the Board of Patent Appeals and Interferences denying an application for a patent by stating that any rejection must be founded on the obligation of the agency to make the necessary findings and to provide an administrative record showing the evidence on which the findings are based, accompanied by the agency's **reasoning** in reaching its conclusions." The Federal Circuit stated that **"...as applied to the determination of patentability vel non when the issue is obviousness, it is fundamental that the rejection of a patent application must be based on evidence comprehended by the language of the statute addressing obviousness."** (Emphasis added) The Federal Circuit went on to say that **"the patent examination process centers on prior art and the analysis thereof; when patentability turns on the question of obviousness, the search for an analysis of prior art includes evidence relevant to the findings of whether there is a teaching, motivation or suggestion to select and combine the references relied on as evidence of obviousness."** (Emphasis added) The Federal Circuit further stated that "in an obviousness determination, the factual question of motivation to combine prior art is material to patentability, and cannot be resolved on **subjective belief and unknown authority.**" (Emphasis added) **"In an obvious determination under patent law, it is improper, in determining whether a person of ordinary skill would have been led to combine references, simply to use that which the inventor taught against its teacher; thus, the Board of Patent Appeals and Interferences must not only assure that the requisite findings are made, based on**

**evidence of the record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion.**" (Emphasis added)

As further stated in the opinion, "In finding the relevant facts, in assessing the significance of the prior art, and in making the ultimate determination of the issue of obviousness, the examiner and the Board of Patent Appeals and Interferences are presumed to act from the viewpoint of a person having ordinary skill in the art to which the subject matter pertain; thus, when they rely on what they assert to be general knowledge to negate patentability, that knowledge must be articulated and placed on the record and the failure to do so is not consistent with either effective administrative procedure or effective judicial review.... "In the context of an obvious determination, the Board of Patent Appeals and Interferences **cannot** rely on **conclusory statements** when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies...." "Sound administrative procedure requires that an agency apply the law in accordance with statute and precedent; the agency tribunal must make findings of relevant facts, and present its reasoning in sufficient detail that the court may conduct meaningful review of the agency's action." This should be even more clear to the Examiner when a person skilled in the art, like Mr. Taylor, understands that such proposed modification would be inoperable.

Specifically, the Federal Circuit stated as follows "...The foundation of the principal of judicial deference to the rulings of agency tribunals is that the tribunal has specialized knowledge and expertise, such that when reasoned findings are made, a reviewing court may confidently defer to the agency's application of its knowledge in its area of expertise. Reasoned findings are critical to the performance of agency functions and judicial reliance on agency competence." (Citations omitted) "The 'common knowledge and common sense' on which the Board relied in rejecting Lee's application are not the specialized knowledge and expertise contemplated by the Administrative Procedure Act. Conclusory statements such as those here provided do not fulfil the agency's obligation. This court explained in *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697, that 'deficiencies of the cited references cannot be remedied by the Board's general conclusion about what is 'basic knowledge' or 'common sense.' The Board's finding must extend to all material facts and must be documented on the record, least the 'haze of so-called expertise' acquire insulation from accountability. 'Common knowledge and common sense,' even if assumed to be derived from the agency's expertise, do not substitute for authority when the law requires authority. (Citations omitted)

Applicants respectfully submit that, like the Board in In re Lee, by essentially saying that to combine the elements of the references, without a detailed explanation as to why or how, was ‘common knowledge and common sense’ and that such **is not** a substitute for **authority when the law requires authority**. Consequently, applicants respectfully request that the Examiner provide the authority in the form of the above requested affidavit or additional reference/detailed explanation which provide the detailed explanation as to how the requirement of at least one tooth extending axially from remaining portions of the engagement surfaces relative to the neck, the at least one tooth enabling the cartridge to mate with a compatible reception assembly and preventing the cartridge from mating with an incompatible reception assembly.

It is applicants' position that the Examiner has not and cannot provide acceptable reasoning why the specific combination, as now required by the amended claims, are obvious without some documented evidence, **what specific understanding or technological principle within the knowledge of one of ordinary skill in the art would have suggested the combination** to support the asserted "**obviousness**" and an action acknowledging same as respectfully requested.

As is known, it is incumbent upon the Examiner to present all the elements of a prima facie case of obviousness. Thus, the Examiner must explain why the prior art appeared to show the claimed subject matter and not simply the general aspects of the invention. Further, the Federal Circuit has added that when more than one reference or source of prior art is required in establishing the obviousness rejection “it is necessary to ascertain whether the prior art teachings would appear to be sufficient to one of ordinary skill in the art to suggest making the claim substitution or other modification.” [See, In re: Lahu, 747 F.2d 703, 223 U.S.P.Q. 1257, 1258 (Fed. Cir. 1984)] Thus, it is not enough that the Examiner present references that contain the assorted features of the invention. The Examiner must also show why it would appear that the references would have been combined. [See also, In re: Fritch, 972 F.2d 1260, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992)] This the Examiner has not done and cannot do as it is believed that there is no disclosure, suggestion or teaching in either of the applied references to combine the applied references to produce the now claimed filter cartridge and an action acknowledging same is respectfully requested.

It is applicants' position that the Examiner has not and cannot provide acceptable reasoning why the specific combination of features, as now required by the amended independent claims, would have been obvious to one of ordinary skill in the art (design choice).

At this point, applicants respectively again repeat their **earlier requests, that the Examiner appears to ignore**, that the Examiner provide additional documented proof or an affidavit under Section 1.104(d)(2) with respect to the above rejections or any portions thereof that lack an appropriate administrative record showing the evidence on which the findings are based, accompanied by the agency's **reasoning** in reaching its conclusions rather than what appears to be rejections for "being a matter of design choice," "personal knowledge" and/or the taking of "official notice."

***All Claim Limitations Must Be Considered, Especially When Missing From the Prior Art***

When evaluating a claim for determining obviousness, **all limitations of the claim must be evaluated**. A case in point is *In re Fine*, 873 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), where the court reversed an obviousness rejection because the examiner ignored a material, claimed, temperature limitation which was absent from the reference.

Another case in point is *In re Miller*, 418 F.2d 1392, 164 USPQ 46 (CCPA 1969), where the court held that printed indicia on a measuring cup, while not *per se* patentable subject matter, had to be considered in determining patentability, explaining as follows:

The fact that printed matter by itself is not patentable subject matter, because non-statutory, is no reason for ignoring it when the claim is directed to a combination. Here there is a new and unobvious functional relationship between a measuring receptacle, volumetric indicia thereon indicating volume in a certain ratio to actual volume, and legend indicating the ratio, and in our judgment the appealed claims properly define this relationship.

Thus, if printed matter is functionally related to the other elements of the invention, the printed matter must be considered in determining whether the claimed invention is nonobvious in view of the prior art.

In *Jones v. Hardy*, 727 F.2d 1524, 220 USPQ 1021 (Fed. Cir 1984), the Federal Circuit reversed a district court holding of invalidity of patents relating to the use of molded polystyrene sheets in the formation of concrete walls, for failure to consider the invention "as a whole." The basic error of the trial court was in judging the "idea" behind the invention. The Federal circuit held that:

The invention cannot be tested on the basis of whether the "idea" of using molded polystyrene is patentable. Under the patent statute, Title 35 U.S.C., "ideas" are not patentable; claimed structures and methods are. Reducing a

claimed invention to an "idea," and then determining patentability of that "idea" is error. [citation omitted.] Analysis properly begins with the claims, for they measure and define the invention. 727 F.2d at 1527-27, 220 USPQ at 1024.

The district court in *Jones* had treated the structural differences between the claimed invention and the prior art as the invention itself. Rejecting this denigration of the claimed invention "as a whole," the Federal Circuit observed that:

The "difference" may have seemed slight (as has often been the case with some of history's great inventions, e.g., the telephone) but it may also have been the key to success and advancement in the art resulting from the invention. Further, it is irrelevant in determining obviousness that all or all other aspects of the claim may have been well known in the art. *Id.* at 1528, 220 USPQ at 1024.

The Federal Circuit has continually cautioned against myopic focus on the obviousness of the difference between the claimed invention and the prior art rather than on the obviousness *vel non* of the claimed invention and the prior art rather than on the obviousness *vel non* of the claimed **invention as a whole** relative to the prior art as §103 requires. See, e.g., *Hybritech Inc. v. Monoclonal Antibodies, Inc.* 802 F.2d 1367, 1383, 231 USPQ 81, 93 (Fed. Cir. 1986).

It is applicants' position that the Examiner has not and cannot provide acceptable reasoning why the specific combination of features, as now required by the amended independent claims, including the requirement of at least one tooth extending axially from remaining portions of the engagement surfaces relative to the neck, the at least one tooth enabling the cartridge to mate with a compatible reception assembly and preventing the cartridge from mating with an **incompatible reception assembly**, especially in view of the understanding of Mr. Taylor, a person not only skilled in the art, but also one who has worked with a particular product based on the applied reference, and an action acknowledging same is respectively requested.

### ***Functional Language in a Claim Must not be Ignored***

As the Examiner knows, part of evaluating the invention as a whole includes **considering functional language in a claim**. The CCPA recognized the propriety of defining an invention by what it does, rather than by what it is. See *In re Caldwell*, 319 F.2d 254, 138 U.S.P.Q. 243 (C.C.P.A. 1963).

Caldwell appealed claims directed to methods of stimulating growth of ruminants, poultry, and swine using "effective amounts" of aspirin in feed rations. The cited

art taught administering aspirin to children and rats, without any suggestion of stimulating growth. The PTO rejected the claims, not for any reasons of indefiniteness under § 112, but as obvious over a reference that did not satisfy the claimed functional language. The CCPA reversed, stating "that the *real* novelty is as defined in all of the appealed claims—stimulating the growth of ruminants, poultry, or swine *by feeding them aspirin* for that purpose. [The prior art] obviously suggests no such method." *In re Caldwell*, 319 F.2d at 257,138 U.S.P.Q. at 246. In other words, patentability resided in the unobvious use of aspirin for growth promotion, rather than in the amount used. As the court concluded:

"Effective amount" admirably states what is to be derived from the disclosure of the specification as to amount and we can see nothing "critical" about the amount in determining the existence of patentable invention.

*Id.* at 258,138 U.S.P.Q. at 247. *See also Lewmar Marine, Inc. v. Barient, Inc.*, 827 F.2d 744,751-52,3 U.S.P.Q.2d 1766, 1771 (Fed. Cir. 1987), where the Federal Circuit relied on the functional clause, "so that," to distinguish a reference from the claimed invention.

Even if the PTO initially considers that a claim limitation does not comply with the requirements of 35 U.S.C. § 112 or constitutes new matter, it cannot disregard the limitation in evaluating the patentability of the claimed invention as a whole over the prior art. *See In re Grasselli*, 231 U.S.P.Q. 393, 394 (Bd. Pat. App. 1983) ("All of these limitations of the claims must be considered regardless of whether or not they were supported by the specification as filed."), *aff'd mem.*, 738 F.2d 453 (Fed. Cir. 1984); *In re Ionescu*, 222 U.S.P.Q. 537, 540 (Bd. Pat. App. 1984) ("We recognize that claimed subject matter does not become unpatentable over prior art under 35 U. S. C. §§ 102 or 103 merely because a claim may be indefinite."); M.P.E.P. § 2143.03.

It is applicants' position that the Examiner has not properly considered the functional language included in the phrase "...at least one tooth extending axially from remaining portions of the engagement surfaces relative to the neck, the at least one tooth enabling the cartridge to mate with a compatible reception assembly and preventing the cartridge from mating with an incompatible reception assembly, especially in view of the understanding of Mr. Taylor, a person not only skilled in the art but one who has worked with the product of the applied reference, and an action acknowledging same is respectively requested.

In summary, it should be abundantly clear to the Examiner that the "...bosses at on the upper surface at the outer radially ends of the lugs 172 in FIGS. 3, 5, and 6, the



teeth being capable of functioning as recited in the claims since they meet all of the structural limitations recited in the claims... " were **not intended for** nor were they **capable of functioning as proposed by the Examiner**, as the two axially protruding bosses are raised from the adjacent surface of the lug only to the extent necessary to ensure a plane of contact formed by the raised bosses, thus, providing snug engagement with the intended receptacle. The area of the lug adjacent to and surrounding these bosses is relieved from the plane formed by the bosses to a degree sufficient (.040" max to .020" min in the drawing) to accommodate the presence of raised printing (.015" max in the drawing) and ejection pin marks from the injection molding process extant in the manufactured part such that these features would not interfere with the contact plane formed by the bosses, as shown in the attached drawing and photograph, as would be understood by those skilled in the art and an action acknowledging same is respectfully requested.

If after reviewing this response, should the Examiner have questions or require additional information, he is cordially invited to call the undersigned attorney, so this case may receive an early notice of allowance. Such action is earnestly solicited.

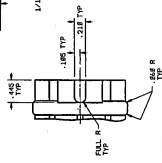
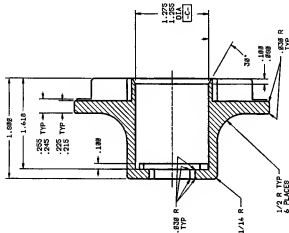
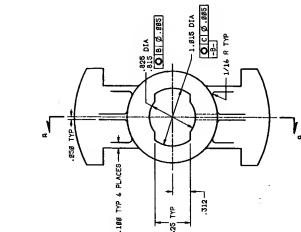
Applicants believe no fee is due for filing this Response. However, if it is determined that a fee is required, authorization is given to any fees or charges due as a result of filing the present paper against Deposit Account No. 13-3723.

Respectfully submitted,

June 26, 2006  
\_\_\_\_\_  
Date

/R. Thomas Payne/  
\_\_\_\_\_  
R. Thomas Payne,  
Reg. No. 30,674  
Attorney for Applicant(s)

CUNO Incorporated, a 3M Company  
400 Research Parkway  
Meriden CT. 06450  
T - (203) 238-8737  
F - (203) 238-8716  
rpaync2@mmm.com



## SECTION A-A

MATERIAL: FDA COMPLIANT ACETAL COPOLYMER  
IN ACCORDANCE WITH CELCON H-98 OR CUNO  
ENGINEERING APPROVED EQUIVALENT.  
COLOR: NATURAL.  
STRAINING MAY NOT BE USED IN THIS PART.

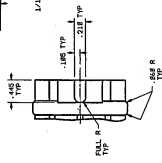
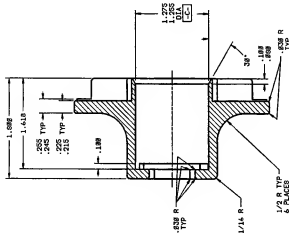
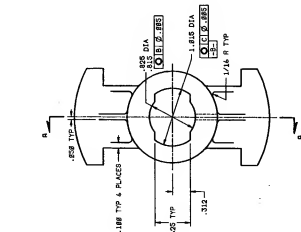
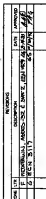
2. UNLESS OTHERWISE SPECIFIED:  
HOLDED EDGES AND FILLETS: .015 R  
HOLD SURFACE FINISH: SPI B-3 MIN  
CRAFT ANGLE: 1°

3. U.O.S. TOLERANCE ON DIMENSIONS:  
DECIMAL:  $\pm .018$   
FRACTIONAL:  $\pm 1/64$

ANGULAR:  $\pm 1^\circ$   
DIAMETERS CONCENTRIC WITHIN .018

4. **MOLD SURFACE FINISH:** SPI A-3 MIN.  
NO GATES, EJECTION MARKS, FLOW LINES, ORANGE PEEL AND  
OTHER SURFACE IRREGULARITIES ALLOWED ON THIS SURFACE.

2 DIMENSION ENCLOSED IN BOX IS A PERMISSIBLE DEVIATION FROM THE ORIGINAL SPECIFICATION.



## SECTION A-A

MATERIAL: FDA COMPLIANT ACETAL COPOLYMER  
IN ACCORDANCE WITH CELCON H-98 OR CUNO  
ENGINEERING APPROVED EQUIVALENT.  
COLOR: NATURAL.  
STRAINING MAY NOT BE USED IN THIS PART.

2. UNLESS OTHERWISE SPECIFIED:  
HOLDED EDGES AND FILLETS: .015 R  
HOLD SURFACE FINISH: SPI B-3 MIN  
CRAFT ANGLE: 1°

3. U.O.S. TOLERANCE ON DIMENSIONS:  
DECIMAL:  $\pm .018$   
FRACTIONAL:  $\pm 1/64$

ANGULAR:  $\pm 1^\circ$   
DIAMETERS CONCENTRIC WITHIN .018

4. **MOLD SURFACE FINISH:** SPI A-3 MIN.  
NO GATES, EJECTION MARKS, FLOW LINES, ORANGE PEEL AND  
OTHER SURFACE IRREGULARITIES ALLOWED ON THIS SURFACE.

2 DIMENSION ENCLOSED IN BOX IS A PERMISSIBLE DEVIATION FROM THE ORIGINAL SPECIFICATION.

